Bloodborne Pathogens/Infection Control
Tuberculosis Awareness

CDM Staff
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Biological Safety Officers
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Please
TURN OFF CELL PHONES
MUTE ALL ELECTRONICS
Why Is Infection Control Important in Dentistry?

- Contact with blood, oral and respiratory secretions, and contaminated equipment can occur
- Both patients and dental health care personnel (DHCP) can be exposed to pathogens
- Proper procedures can prevent transmission of infections among patients and DHCP
Infection control
• First documented report of patient-to-patient transmission of hepatitis C virus associated with a dental setting in the United States.
• Improper sterilization techniques.
• Using single vials of medications on multiple patients.
• No written infection control protocol.
Standard Precautions

- Apply to all patients regardless of actual or perceived risk factors; treat all blood or OPIM as if infectious.
  - Otherwise potentially Infectious Material (OPIM)
  - Body fluids, secretions incl. saliva, and excretions (except sweat), whether or not they contain blood
  - Non-intact (broken) skin
  - Mucous membranes
Elements of Standard Precautions

• Hand washing
• Use of gloves, masks, eye protection, and gowns
• Disinfection of patient care equipment
• Disinfection of environmental surfaces. Alternatively, cover what you can
• Injury prevention
Bloodborne pathogens
HBV Vaccine

- Vaccine Efficacy >90%
- Now part of childhood schedule
- OSHA requirement to offer to employees with potential occupational exposure
Historically, what percentage of occupational exposures reported to Student Health Services consisted of Dental Students?

A. 0 - 5%
B. 5 - 44%
C. 45 - 66%
D. 67-100%
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Occupational Exposure

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**Departmental Accident Report Form**

**for Workers’ Compensation Benefits**

<table>
<thead>
<tr>
<th>Employee Information</th>
<th>To be completed by the employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name:</td>
<td></td>
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<tr>
<td>First Name:</td>
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<tr>
<td>Employee ID:</td>
<td></td>
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<tr>
<td>Date of Birth:</td>
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<tr>
<td>Home Phone:</td>
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<tr>
<td>Address:</td>
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<tr>
<td>City, State, ZIP:</td>
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<tr>
<td>Employment Date:</td>
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<tr>
<td>CU Department:</td>
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<tr>
<td>Occupation:</td>
<td></td>
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<tr>
<td>Work Phone:</td>
<td></td>
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<tr>
<td>Wages per week:</td>
<td></td>
</tr>
<tr>
<td>Days per week worked:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accident Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of injury/illness:</td>
</tr>
<tr>
<td>Time of injury/illness:</td>
</tr>
<tr>
<td>Time you started work:</td>
</tr>
<tr>
<td>Location (building, room) where injury/illness occurred:</td>
</tr>
<tr>
<td>What were you doing when injury/illness occurred?:</td>
</tr>
<tr>
<td>How did the injury/illness occur?:</td>
</tr>
<tr>
<td>Was the injury caused by a sharp object (needle, scalpel, razor, etc.)? If so, you must specify the device type and brand:</td>
</tr>
<tr>
<td>Describe the object or substance (chemical, blood, etc.) which directly injured you:</td>
</tr>
<tr>
<td>Describe the injury/illness—indicate type of injury, specify left or right, and so on, for example, “upper right leg”:</td>
</tr>
</tbody>
</table>
BBP-Post Exposure Evaluation

- Baseline HIV, HBV, HCV testing (titers/viral load)
- HIV Post exposure prophylaxis; anti-retroviral treatment may be indicated and is effective if given immediately (2 hour window) – REPORT IMMEDIATELY
- Source patient name and MRN# is helpful
- HBV Vaccination/Ig may be indicated
- HCV No post exposure prophylaxis; anti-viral treatment may be indicated for established infections
- Follow up testing
Sharps Safety
When do needle stick injuries occur?

- **2%** • Before use
- **38%** • During use
  - passing equipment, collision w/ worker
- **42%** • After use/before disposal
  - activating safety feature, recapping
- **18%** • During and after disposal
  - improper disposal
Substitution – ENGINEERED SHARPS

‘Safe Needles’ mandatory OSHA requirement to use safest ‘sharp’ possible, engineered-in safety features

AVOID breaking, bending, or recapping needles.
Sharps Safety – Scoop Method
Regulated Medical Waste Management

- Properly labeled containment to prevent injuries and leakage
  - Red bag waste
  - Sharps waste
- Medical wastes are “treated” in accordance with state and local EPA regulations
- Processes for regulated waste include autoclaving and incineration
What goes in here?

- Needles
- Syringes
- Glass
- Scalpel blades
- Orthodontic wires
- Irrigation syringes
- Anything that would rip a a red bag
- Unused sterile sharps

Fill to this level only
Red bag bins are not a place to store:

- Coats
- Bags
- Dental trays
- Anything
What goes in here?

No food or drink permitted in the clinic
Extracted Teeth

the root of his evil

A surging novel of passion and infidelity
Extracted Teeth

- Considered regulated medical waste
  - If it is determined that histologic evaluation is not required, the extracted teeth must be placed in the designated, pre-labeled “Extracted Teeth Containing Amalgam” appropriately labeled (extracted teeth) container, regardless of whether the teeth contain amalgam or not.
  - Disinfect before disposal; containers have a solution of sodium hypochlorite (1 part bleach and, 9 parts water).
  - Do not incinerate extracted teeth

- Can be given back to patient
Categories of Environmental Surfaces

• Clinical contact surfaces
  • High potential for direct contamination from spray or spatter or by contact with DHCP’s gloved hand

• Housekeeping surfaces
  • Do not come into contact with patients or devices
  • Limited risk of disease transmission
Clinical Contact Surfaces
Housekeeping Surfaces
Spills

- Small blood spills on clinical contact surfaces can be cleaned up by CODM staff / students
- Cleaning materials and PPE are available in the clinics
  - Gloves, paper towels, bleach
- When to ask for help?
  - Spills on housekeeping surfaces, large spills, aspiration system failure
TITLE: Biological Spills

POLICY: This policy identifies responsibility and procedures for cleaning biological spills such as blood and saliva.

PURPOSE: To ensure that biological spills are cleaned and disinfected promptly as an infection control measure. This policy is in agreement with the Columbia University Policy—Biological Spills; Response and Clean-up (see REFERENCES).

RESPONSIBILITIES:

1. Clinicians are generally responsible for cleaning up biological spills that contact their equipment (e.g., dental chairs) and work surfaces. Facilities are generally responsible for cleaning up biological spills that are on the floor. Clinicians should call Facilities for service (212-305-4357). Facilities will then reach out to EH&S if a consultation on clean-up procedures is warranted. Departments are encouraged to contact Facilities to establish specific agreements regarding the scope of spill clean-up services.

2. Facilities are generally responsible for cleaning up biological spills that are in common areas, for example, on the hallway floor or in a bathroom. EH&S is available to consult on clean-up procedures and will assume responsibility for the spill if it is large.

PROCEDURE:

1. Materials for clean-up should be assembled in one place, and personnel should wear personal protective equipment.
Personal Protective Equipment
Disposable gowns should also be changed daily or when they become visibly soiled. They can be disposed of in normal (non-red bag) waste.

Gowns are either front or rear-opening; NOT reversible.

Surgical masks and protective eyewear (providers and patients) must be worn at all times when splatter, splash or aerosol producing procedures are being performed, or observations of procedures are being made.
Gloves

- Minimize the **two-way transmission** of microorganisms between patients and providers
- Reduce contamination of the hands of health care personnel by microbial flora that can be transmitted from one patient to another
- Are not a substitute for hand washing or sanitizing!
Special Hand Hygiene Considerations

- Use hand lotions to prevent skin dryness
- Consider compatibility of hand care products with gloves (e.g., mineral oils and petroleum bases may cause early glove failure)
- Keep fingernails short
- Avoid artificial nails
- Avoid hand jewelry that may tear gloves
Hand hygiene

- When removing gloves, no glove is 100% effective
- Change ASAP after visible contamination
- ‘Purell’ or soap and water?
- Technique is important
Transmission of *Mycobacterium tuberculosis*

- Spread by droplet nuclei
- Immune system usually prevents spread
- Latent infection: Bacteria can remain alive in the lungs for many years (not transmissible)
Risk of TB Transmission in Dentistry

- Risk in dental settings is low
- Only one documented case of transmission
- Tuberculin skin test conversions among DHCP are rare
Preventing Transmission of TB in Dental Settings

- Baseline medical surveillance of DHCP (PPD/quantiferon)
- Assess patients for history of TB
- Defer elective dental treatment
- If patient must be treated:
  - DHCP should wear a respirator
  - Isolation; separate patient from others/mask
  - Refer to facility with proper TB infection control precautions
Questions?